

REQUEST FOR ADDITIONAL INFORMATION
ON THE RESPONSE TO NRC GENERIC LETTER 2008-01
SOUTHERN CALIFORNIA EDISON COMPANY
SAN ONOFRE NUCLEAR GENERATING STATION UNITS 2 AND 3
DOCKET NOS. 50-361 AND 50-362

By letters dated October 14, 2008, February 12, 2009, April 17, 2009, and June 17, 2009, Southern California Edison (SCE), the licensee for the San Onofre Nuclear Generating Station (SONGS), Units 2 and 3, provided responses to Generic Letter (GL) 2008-01, "Managing Gas Accumulation in Emergency Core Cooling, Decay Heat Removal, and Containment Spray Systems," dated January 11, 2008. The U.S. Nuclear Regulatory Commission (NRC) staff has reviewed the information provided by SCE, and has determined that the following additional information is required, to enable the staff to make a determination as to whether the licensee has acceptably demonstrated, "that the subject systems are in compliance with the current licensing and design bases and applicable regulatory requirements, and that suitable design, operational, and testing control measures are in place for maintaining this compliance," as stated in GL 2008-01.

Guidance on NRC staff expectations is provided in Reference 1 below, which is generally consistent with Nuclear Energy Institute (NEI) guidance provided to industry in Reference 2, as clarified in later NEI communications. The NRC staff recommends that the licensee consult Reference 1 when responding to the following RAIs:

1. In Reference 5, the licensee states that, "SCE will track the TSTF evaluation as a Corrective Action resulting from the Generic Letter evaluation, which will be completed no later than 1 year after NRC approval of the TSTF." Clarify the schedule for submitting a possible license amendment resulting from this evaluation.
2. Provide a discussion of the methods used to determine the volume of voids that have been vented, for use in the Corrective Action Program. Include consideration of the uncertainty in the volume.
3. GL 2008-01 (Reference 3) discussed the loss of high pressure safety injection (HPSI) pumps at Oconee in 1997 as an example of failure of a subject system. This was caused by a failure of level transmitters associated with the letdown storage tank that is commonly referred to as the volume control tank (VCT). The VCT was not identified in SCE's reply to the GL (Reference 5). Either identify the VCT as a part of the subject systems or provide a justification for its exclusion.
4. Describe the monitoring of pump operation in all modes and specialized monitoring of appropriate plant parameters during shutdown operation, including reduced inventory and mid-loop operations. Describe the methods used, such as monitoring level indication and system pressures. Clarify how often the Safety Injection Tanks' water makeup volumes and water makeup rates are monitored and trended. For reduced inventory and mid-loop operations, justify that the water level is sufficient to prevent vortexing due to suction from the RCS.
5. Although training was not specifically addressed in the GL (Reference 3), the NRC staff considers it to be a necessary element of implementing procedures and taking other

actions in response to the issues identified in the GL. Provide a brief description of training, as it relates to SCE's response to GL2008-01.

6. Describe the method used to ensure that the gas was successfully vented and not transported to another high point; for both the monthly inspections and other fill and vent operations. Justify how sequential venting starting at the source and working toward system loads is able to prevent the transportation of voids to another high point.
7. Provide a justification that a water level of 3 inches above the bottom of the down-turned RWST suction elbow is enough to prevent gas ingestion due to vortexing during accident conditions. Since flow rates under realistic accident conditions (non-degraded pumps, two trains running) may significantly exceed the design basis accident flow rates, clarify whether the water level is applicable to actual expected accident conditions and for all modes of operation.
8. In Reference 5, SCE assumed "that the potential voids... would pass through the pumps in the critical 20 second transient timeframe." This is not consistent with the NRC staff's acceptance criteria in Reference 4. Provide an analysis that meets the criteria (particularly the use of 0.5 second intervals), or provide additional justification that the current analysis bounds the behavior of the system.

REFERENCES

- 1 Ruland, William H., "Preliminary Assessment of Responses to Generic Letter 2008-01, 'Managing Gas Accumulation in emergency Core Cooling, Decay Heat Removal, and Containment Spray Systems,' and Future NRC Staff Review Plans," NRC letter to James H. Riley, Nuclear Energy Institute, ML091390637, May 28, 2009.
- 2 Riley, James H., "Generic Letter (GL) 2008-01, 'Managing Gas Accumulation in Emergency Core Cooling, Decay Heat Removal, and Contain Spray Systems' Evaluation and 3 Month Response Template," Letter to Administrative Points of Contact from Director, Engineering, Nuclear Generation Division, Nuclear Energy Institute, Enclosure 2, "Generic Letter 2008-01 Response Guidance," March 20, 2008.
- 3 Case, Michael J., "NRC Generic Letter 2008-01: Managing Gas Accumulation in Emergency Core Cooling, Decay Heat Removal, and Containment Spray Systems," Letter from Director, Division of Policy and Rulemaking, Office of Nuclear Regulation, NRC, ML072910759, January 11, 2008.
- 4 Warren C. Lyon, U.S. Nuclear Regulatory Commission, "Revision 2 to NRC Staff Criteria for Gas Movement in Suction Lines and Pump Response to Gas," ML090900136, March 26, 2009.
- 5 Short, Michael P., "Nine-Month Response to NRC Generic Letter 2008-01, 'Managing Gas Accumulation in Emergency Core Cooling, Decay Heat Removal, and Containment Spray Systems,' San Onofre Nuclear Generating Station, Units 2 and 3." Letter to Document Control Desk, NRC, from Vice President, Southern California Edison, ML0829504680, October 14, 2008.
- 6 Short, Michael P., "Nine-Month Supplemental (Post-Outage) Response to NRC Generic Letter 2008-01, 'Managing Gas Accumulation in Emergency Core Cooling, Decay Heat

Removal, and Containment Spray Systems,' San Onofre Nuclear Generating Station, Unit 3." Letter to Document Control Desk, NRC, from Vice President, Southern California Edison, ML090440570, February 12, 2009.

- 7 Short, Michael P., "Nine-Month Supplemental (Post-Outage) Response to NRC Generic Letter 2008-01, 'Managing Gas Accumulation in Emergency Core Cooling, Decay Heat Removal, and Containment Spray Systems,' San Onofre Nuclear Generating Station, Unit 2." Letter to Document Control Desk, NRC, from Vice President, Southern California Edison, ML091690343, June 17, 2009.
8. Short, Michael P., "Revision to Commitment Completion Date and additional information associated with NRC Generic Letter 2008-01, 'Managing Gas Accumulation in Emergency Core Cooling, Decay Heat Removal, and Containment Spray Systems,' San Onofre Nuclear Generating Station, Unit 2." Letter to Document Control Desk, NRC, from Vice President, Southern California Edison, ML091070587, April 17, 2009.